ER Site No. 138: Bldg 6630 Septic System

ADS: 1295
Operable Unit: Septic Tanks and Drainfields

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Site History

ER Site 138 includes the septic tank and drainfield serving Building 6630. Building 6630 is located in the southeast quadrant of Technical Area (TA)-III. It was constructed in 1959 for environmental testing of steel alloys. Metal mixtures containing iron, nickel, chromium, manganese, silicon, copper, DUl, molybdenum, and titanium were melted in either a vacuum induction furnace, a vacuum arc furnace, or a high-vacuum electron beam furnace. Ingots from the furnaces were milled by various saws, which were cooled by an ethylene glycol/water system. A limited number of corrosion studies were performed on the alloys in a salt spray/fog climatic chamber. The building currently is served by a new sewer line.

One 2300-L (600-gal) septic tank and drainfield are located on the west side of Building 6630. The drainfield consists of 73 m (240 ft) of 10-cm (4-in.) drain tile in four parallel 0.6-m (2-ft)-wide trenches on 3-m (10-ft) centers. The drainfield area is apparent by the growth of grasses and salt cedars. This septic system received wastewater from the bathrooms, sinks, floor drains, and sumps. Estimated effluent discharge rates range between 450 and 4500 L/day (120 and 1200 gal/day). According to the Resource Conservation and Recovery Act (RCRA)Facility Investigation (RFI) work plan, three French drains or drywells are associated with Building 6630. One is located off the northeast corner of the building beneath a concrete slab and metal shed and reportedly received wastewater from a hand sink. The second French drain is located on the west side of the building and reportedly received water from the salt corrosion test facility. The third French drain is reportedly located east of the building and received hundreds of liters per month of cooling tower water, which could contain descalants, rust inhibitors, and decalcification acids. Inspection of the building and engineered drawings and interviews with building operators during a site visit in September 1993 provided no evidence of any drains to the east or northeast of the building, and no knowledge of the existence of a cooling tower at the facility. According to the drawings and building personnel, all drains discharged to the documented septic system west of the building. The location of the French drain for the salt corrosion test facility is now covered with mobile offices. Because the French drains or drywells

either can not be located or have no history of releases of constituents of concern, only the septic system was investigated as part of ER Site 138.

In the past, spills of ethylene glycol coolant occurred and may have been flushed down the floor drains and sumps that drained to the septic tank. The sumps have since been plugged. Once in the past, one of the vacuum pumps spilled approximately 76 L (20 gal) of chlorinated lubricating oil, which may have contained polychlorinated biphenyls (PCBs) into one of the sumps in the building. This spill was picked up by absorbent material and wiped up with rags. The contaminated material was drummed and transported off site for disposal.

Over the life of the facility, approximately 76 L (20 gal) of organic compounds were used for cleaning parts and vacuum chambers. The compounds include acetone, alcohol, carbon tetrachloride, trichloroethylene (TCE), and xylene. Small quantities of HCL and nitric acid were used for etching.

The site is approximately 145 m (480 ft) above the regional water table.

Constituents of Concern

The constituents of concern include organic compounds, metals, depleted uranium (DU), acids, and PCBs.

Current Hazards

No known surface or subsurface hazards have been identified, based on environmental soil and soil-gas sampling that has been conducted at the site.

Current Status of Work

The contents of the septic tank were analyzed for waste disposal purposes in the spring of 1994.

Passive soil gas sampling in the summer of 1994 detected TCE, BTEX, and PCE anomalies in the drainfield.

Soil samples were collected in the drainfield and around the septic tank in 1994.

Wastes in the septic tank were removed for disposal in 1995. The tank was decontaminated, and tank concrete samples were collected to verify that no COCs remained. The tank was determined to be clean and was backfilled with clean soil. The abandoned drainfield drainlines are still present at the site and are buried at an average depth of about five feet below the surface.

A confirmatory sampling No Futher Action (NFA) proposal was submitted to the New Mexico Environment Department/Hazadous Radioactive Materials Bureau (NMED/HRMB) in July 1996. NMED issued a Request for Supplemental Information (RSI) in June 1998 and SNL/NM responded to the RSI in November 1998. NMED issued a second RSI in June 2000.

Future Work Planned

Additional work may be completed at this site pursuant to the Small Septic Systems sampling and analysis plan (SAP).

Waste Volume Estimated/Generated

Waste volumes generated at this site include 74 gallons of mixed waste and 10 gallons of hazardous waste.

Information for ER Site 138 was last updated Dec 11, 2001.